



USER' S MANUAL

Professional Receiver Decoder



Thank you for purchasing Professional Receiver Decoder.

This manual will help you to install, use and maintain the receiver. Please read this manual carefully before operating your unit and keep it for future reference.

Warning & Note

In this manual, pay special attention to the following marks that indicate hazardous situations.

- ❖ **Warning:** Alert user to the operation which could result in device damage or data loss, and the presence of a hazardous situation which could result in serious injury.
- ❖ **Note:** Remind user of presence of possible problems and information of any importance to help understand, use and maintain the installation.

Note: The information in this user's manual is subject to change without notice. The photos and function explanations in the manual are for reference. If any discrepancy exists, please refer to the entity.

Safety Instruction

Read following items carefully before operating this decoder.

Installation

- ❖ This decoder should be installed horizontally. Unbalanced installation may cause damage.
- ❖ Install the decoder in a place with:
 - good ventilation (leave space not less than 10cm around this decoder)
 - no heat source (burning candle, radiator, heater, fireplace, amplifier, etc)
 - suitable temperature
 - against humidity (especially bathroom, kitchen, etc)
 - no direct sunlight
 - low vibration

Maintenance

- ❖ Unplug this decoder from wall outlet before changing connections between this unit and other related equipments.
- ❖ Don't unplug or insert signal, audio and video cables when this decoder is turned on.
- ❖ To avoid the risk of lightning strike, unplug power cord of the decoder from wall outlet in lightning storm.
- ❖ Unplug power cord from wall outlet when the unit is not used for a long time or damaged accidentally.
- ❖ Turn off this unit first, after 1 to 2 hours turn it on when move this decoder from a cold environment to a hot environment, vice versa.
- ❖ To avoid the risk of fire or electric shock, don't expose this decoder to rain, splashing and don't put object with liquid on this unit.
- ❖ Do not cover vents of this decoder with newspaper, table cloth, curtain, etc.
- ❖ Don't put heavy objects on this decoder.
- ❖ Unplug power cord of this decoder from wall outlet before cleaning. To reduce damage, clean this unit with dry cloth. Do not let liquid and spray flow into this device to avoid serious damage.
- ❖ There is dangerous voltage in product enclosure. Do not remove the cover (or back) to avoid the risk of fire or electric shock.

Power Socket and Power Cord

- ❖ The power socket should be available near the decoder and well grounded.
- ❖ Do not insert or pull out the power cord with wet hands to avoid electric shock or fire.
- ❖ Do not use damaged power cord. If power cord is damaged, contact your local dealer for replacement to avoid risk of fire or electric shock.
- ❖ Do not excessively bend the power cord, and do not place heavy objects on it, which could cause damage, electric shock or fire.

Others

- ❖ The all-pole power switch of this decoder is on rear panel. Switch it to "I", related equipment will connect with power supply. Switch it to "O", related equipment will disconnect with power supply completely.



- ❖ Connect Class I equipments with power socket which can protect grounding line.
- ❖ Only use accessories specified by the manufacturer, as other unsupported accessories may cause damage to the decoder.

Warning Mark

This mark appears on rear panel of this decoder, painted prominently in contrasting color to background. It consists of two graphical symbols and warning messages. The detailed specifications are as follows:



Warning: To reduce the risk of electric shock, don't remove the cover (or back). Equipment service and maintenance should be undertaken by qualified personnel.



This symbol alerts user to the presence of uninsulated “dangerous voltage” in product enclosure that sufficient magnitude will constitute risk to person.



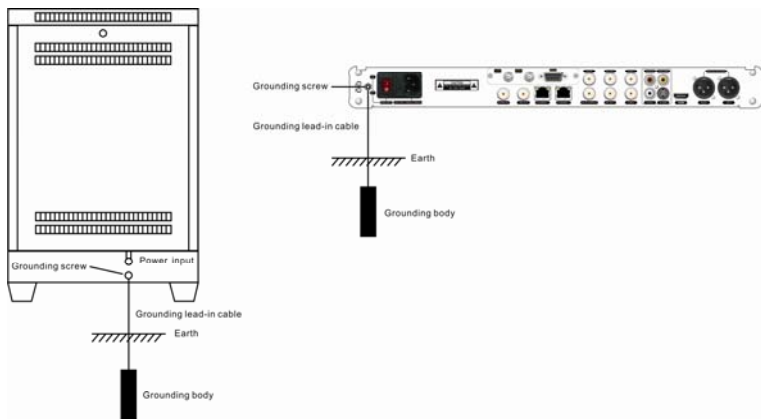
This symbol reminds user of presence of important operation and maintenance instructions in literature accompanying this decoder.

Grounding Specification

Warning: To secure user and device safety, all decoder and decoder cabinets must be connected with ground before turning them on.

Grounding specifications are the following:

1. Grounding device consists of grounding lead-in cable and grounding body.
2. Grounding lead-in cable may be multiple copper wires or other zonal metal bar which section is more than 10mm. Grounding lead-in cable must be a whole cable without tie-in. Select the shortest distance to connect it with grounding body. Don't bend it and do anticorrosive disposal.
3. Grounding body is metal object buried underground which is usually made of steel tube, angle iron or flat steel. Specifications are:
 Steel tube: $\Phi 50\text{mm}$ and tube thickness should be not less than 3.5mm
 Angle iron: Not less than 50mm x 50mm x 50mm
 Flat steel: Not less than 40mm x 4mm
 Length of grounding body should be 1.5m to 2.5m. The depth of under ground should be more than 2m and grounding body should be buried under frozen soil layer in cold area. Backfill grounding pit with soil or impedance-reducing material such as salt. Make sure there are not blocks or building rubbishes in pit soil and infill soil according to layers.
4. Connection between grounding lead-in cable and grounding body must be welded.
5. To make sure that all cabinets are connected with ground securely, each cabinet must be connected with ground separately. The following diagram shows grounding process:



Schematic Diagram of Grounding

Lightning Protection for Satellite Receiving Antenna

Notes:

- *Satellite receiving antenna is usually installed at high place and is easily hit by lightning to cause damage. So lightning rod must be installed on the antenna.*
- *To prevent injury caused by pace voltage produced by lightning rod during lightning strike, do not install lightning rod over a passage or exit through which people often walk.*

1. Making and installing wooden lightning rod

Lightning rod consists of four parts: lightning receiving device (needle point of lightning rod), supporting pole, grounding lead-in cable and grounding body.

Figure 1 shows a wooden lightning rod. Needlepoint is made of a thicker copper wire, iron wire or better still a thick iron rod. The supporting pole can be wooden or metal. Grounding lead-in cable can be made of thicker iron wire or other banded metal bar with its upper end connected to needlepoint and its lower end buried under ground for connecting with grounding body. The connection must be welded. The grounding lead-in cable must be a whole cable and select the shortest distance to connect it with grounding body. Try your best not to bend it.

Grounding conduct is metal object buried under ground which is usually made of steel tube, angle iron or flat steel and its length should be 1m to 2m, buried not less than 2m under ground. Lightning rod and grounding body must be connected with ground separately.

2. Making and installing a metal lightning rod

Lightning rod with metal supporting pole can induct lightning through the metal supporting pole without additional grounding lead-in cable. The needlepoint of the lightning rod is welded with the metal supporting pole. Grounding body buried under ground can be made of steel tube, angle iron, or steel needle which length should be 1m to 2m. The grounding body should be buried not less than 2m in a pit, in which some salt can be spread.

3. Protected area of lightning rod

A lightning rod protects a pie slice area of $45^\circ \sim 60^\circ$ below it as shown in figure 2. A receiving antenna will be protected if it is in the pie slice area. The higher a lightning rod's place, the bigger the protected area. Make sure that the antenna is installed in the protected area. The distance between lightning rod and protected antenna should be more than 5m because lightning rod and its lead-in cable can penetrate 2m to 3m air when inducted by lightning.

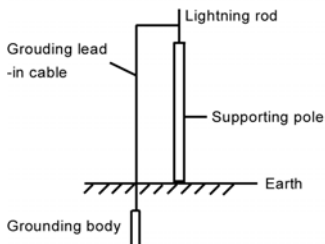


Fig.1 Lightning Rod with Supporting Pole

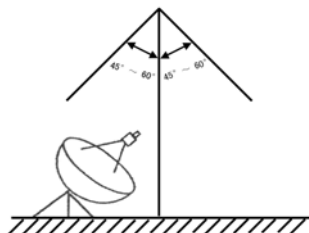


Fig.2 Protected Area of Lightning Rod

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1. Product Description

1.1 Introduction

This is a professional receiver decoder which offers a flexible solution that can be tailored to the needs of individual operators in a variety of applications. With configurable design, it supports HD/SD video decoding for multi-signal input. It has professional transmission functions with ASI, MPEGoIP, HDMI, CVBS, AES/EBU, XLR and other ports. Equipped with on-board dual common interfaces (CI), it can descramble multiple scrambled programs. With smart card, it can descramble programs scrambled by Irdeto CA. It is able to monitor the abnormal signals and trigger the relay alarm. User-friendly management style and programmable SNMP interface facilitate centralized management for multiple equipments.

Note: There may be some hardware and software configuration differences for different models, please refer to the entity.

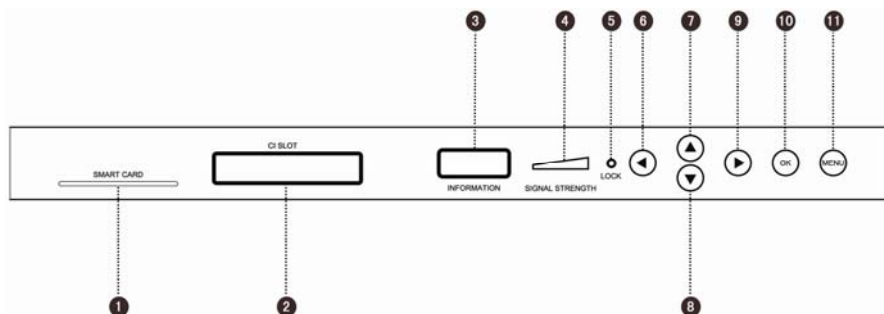
1.2 Notice

The ports and functions marked with “*” need hardware and license support. For actual hardware configuration, please refer to the entity. You can select Main Menu → Identity → License to check license information.

1.3 Main Feature

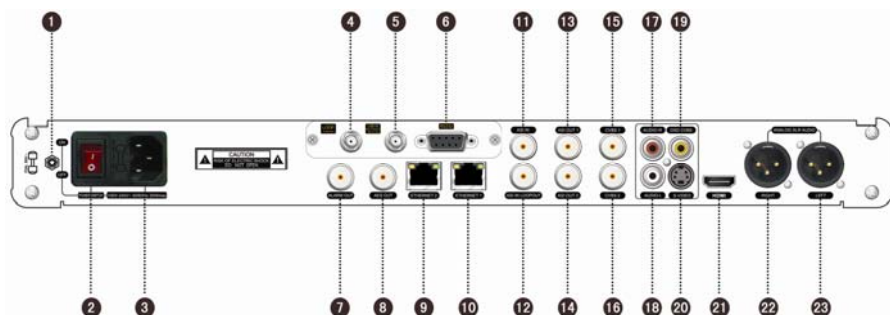
- Professional transmission function
- *Support multi-signal input and compliant with DVB-S/S2, DVB-C, DVB-T, ABS-S and ASI standards
- *Dual-CI support numerous CAM types and compliant with EN 50221 standard
- *Irdeto CA supported
- *Support HD/SD video decoding in multiple formats
- *Support multiple transmission output interfaces, such as ASI, MPEGoIP, etc.
- *Support multiple video and audio output interfaces, such as HDMI, CVBS, AES/EBU, XLR, etc.
- *AES/EBU support PCM digital audio output
- User-friendly interface
- Support Web Server management and OSD management
- Support SNMP control by Ethernet
- *Alarm monitor supported
- Automatic recovery for latest system configuration due to unexpected power off
- Software upgrade via RS232 serial port or RJ45

1.4 Front Panel



Name	Function
1. *SMART CARD	Insert smart card
2. *CI SLOT	Insert CAM card
3. INFORMATION	Display status
4. SIGNAL STRENGTH	Display signal strength
5. LOCK	Bright if signal is locked
6/9. ◀▶	Move cursor left/right
7/8. ▲▼	Move cursor up/down
10. OK	Display service information or confirm operation
11. MENU	Display/exit from main menu or back to previous menu

1.5 Rear Panel

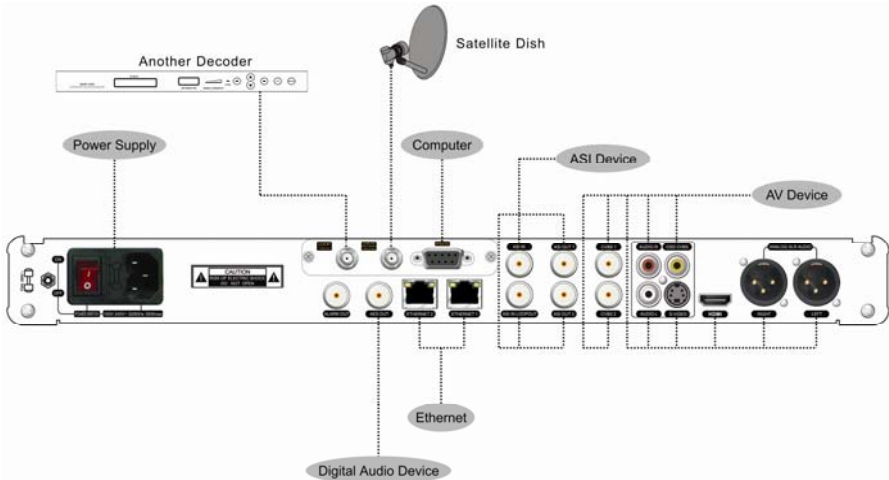


Name	Function
1. Grounding Screw	Used for grounding protection
2. ON/OFF	Power switch
3. 100V-240V~	AC power supply port
4. LOOP THROUGH	Loop output RF signal to another decoder
5. LNB IN/RF IN/ANT IN	Input signal of DVB-S/S2, DVB-C, DVB-T, ABS-S, DMB-TH, etc
6. RS232	Serial port used for software upgrade, etc
7. *ALARM OUT	Output high level (5V) when there is abnormal signal
8. *AES OUT	Output AES3-id digital audio signal
9/10. *ETHERNET2/1	Connect to Ethernet
11. *ASI IN	Input port for TS in ASI format, used for decoder cascading
12. *ASI IN LOOPOUT	Loop output port for TS in ASI format
13/14. *ASI OUT1/2	Output port for TS in ASI format, used for decoder cascading
15/16. *CVBS1/2	Output CVBS video signal (VBI Teletext output port)
17/18. AUDIO-R/L	Output right/left audio signal for monitoring
19. OSD CVBS	Output CVBS video signal with OSD for monitoring
20. S-VIDEO	Output Y/C video signal to TV
21. *HDMI	Output video and audio signal to TV (support HD output)
22. *RIGHT ANALOG XLR AUDIO	Output right analog XLR audio signal
23. *LEFT ANALOG XLR AUDIO	Output left analog XLR audio signal

2. Installation

2.1 System Connection

Connect satellite dish, AV devices and other related devices referring to following diagram.



Notes:

- **Before connecting, please power off all connected devices.**
- **If some cables in above diagram are not included in the package, user can self-configure as needed.**
- **Please connect AV cables according to color.**
- **Used for monitoring and debugging, OSD CVBS output can not serve as main signal output for modulators or other AV devices.**
- **CVBS output is the main signal output for modulators or other AV devices.**
- **You can connect this decoder with modulators via XLR port or RCA port.**
- **You can select different tuner to receive appropriate signals, such as cable signal and terrestrial signal.**
- **If you encounter any problem during the connections, please contact your local dealer.**

2.2 Power on

1. Connect one end of power cord to the decoder.
2. Connect the other end of power cord to power socket.
3. Turn on the decoder, system initializes and start-up OSD is shown on TV screen.

Note: Please turn on your TV and switch it to AV mode.

2.3 Search Program

After initialization, system will search programs automatically according to the set frequency parameters. After searching, program will be played automatically, and the channel number is shown on front panel.

Note: *If frequency parameters are set wrongly, you can modify parameters to search programs manually. For more details, please refer to 3.2.3 Search.*

2.4 Play Program

Select Main Menu → Service → Service Select and press **OK** key to enter service info window, or press **OK** key directly in non-menu mode to enter. You can select programs to play. If needed, you can set PID values directly to play program. For more details, please refer to **3.3.1 Service Selection**.

3. Main Menu

In non-menu mode, press **MENU** key to display main menu that consists of following items:

- ❖ **Status**
- ❖ **Input**
- ❖ **Service**
- ❖ **Decrypt**
- ❖ **Output**
- ❖ **System**
- ❖ **Preset**
- ❖ **Identity**



Select items with **▲▼** keys and press **OK** key to enter sub-menu.

Note: Please operate according to key instructions on screen.

3.1 Status

Status includes general information, stream information, AV information and IP information.

General Info: Status and Decoding Service information.

Stream Info: TS ID, Org_Network ID, etc.

AV Info: Resolution, Analog Mixer, VBI select, etc.

***IP Info:** Information related to IP output, including Dst IP and Dst Port.



◀▶ keys: Select item

OK key: Display information

MENU key: Back to previous menu

3.2 Input

3.2.1 Input Source

You can set input source.

***Input Select:** Press **◀▶** keys to select ASI or Tuner.

***Max Rate:** If DVB-S/S2 tuner is configured for this decoder and "Input Select" is set to "Tuner", press **◀▶** keys to select a proper max. rate (48Mbps, 72Mbps, 96Mbps, 108Mbps or 216Mbps).

After setting, move cursor to "apply" and press **OK** key to confirm.



3.2.2 *LNB Setting (DVB-S/S2 Tuner)

If DVB-S/S2 tuner is configured for this decoder, you can set LNB parameters.



LNB Type: Press ◀▶ keys to select Single or Universal according to your LNB.

LNB Power: Press ◀▶ keys to select 13V (vert), 18V (horiz) or OFF.

LNB 22k: Press ◀▶ keys to select ON or OFF according to connection of 22k switch. If "LNB Type" is set to "Universal", 22k switch will operate automatically.

Low Freq. (MHz): Press ◀▶ and ▲▼ keys to set low frequency of LNB and press OK key to confirm.

High Freq. (MHz): If "LNB Type" is set to "Universal", please set high frequency of LNB. Please refer to above operation.

After setting, move cursor to "apply" and press OK key to confirm.

3.2.3 Search

Notes:

- **Don't turn off the decoder during searching.**
- **Do not modify the frequency parameters arbitrarily, otherwise it will affect the search.**

3.2.3.1 Tuner Setting

If "Input Select" is set to "Tuner", tuner setting window will be displayed. You can modify frequency parameters to search programs manually, and view tuner status, including signal strength, signal quality and error rate.

❖ DVB-S/S2 Tuner

Down Freq. (MHz): Press ◀▶ and ▲▼ keys to set down frequency and press OK key to confirm.

Symbol Rate (KS/s): Press ◀▶ and ▲▼ keys to set symbol rate and press OK key to confirm.

❖ DVB-C Tuner

Frequency (MHz): Press ◀▶ and ▲▼ keys to set frequency and press OK key to confirm.

Symbol Rate (KS/s): Press ◀▶ and ▲▼ keys to set symbol rate and press OK key to confirm.

Modulation (QAM): Press ◀▶ keys to select QAM16, QAM32, QAM64, QAM128 or QAM256.

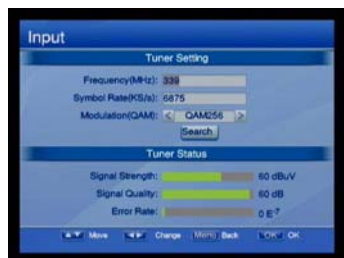
❖ DVB-T Tuner

Down Freq. (KHz): Press ◀▶ and ▲▼ keys to set down frequency and press OK key to confirm.

BandWidth (M): Press ◀▶ keys to select 6M, 7M or 8M.

LNB Power: Press ◀▶ keys to select ON or OFF.

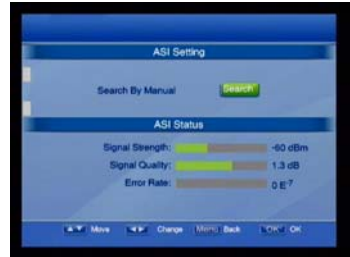
After setting, move cursor to "Search" and press OK key to search programs according to the set frequency parameters. After searching, program will be played automatically.



3.2.3.2 ASI Setting

If "Input Select" is set to "ASI", ASI setting window will be displayed. You can search programs manually, and view ASI status, including signal strength, signal quality and error rate.

Move cursor to "Search" and press **OK** key to search programs. After searching, program will be played automatically.



3.3 Service

3.3.1 Service Selection

In non-menu mode, you can press **OK** key to enter this window.

You can view program information, and select programs to play. If needed, you can set PID values directly to play program.



3.3.1.1 Play Program

▲▼ keys: Select program

OK key: Play program

3.3.1.2 PID Play

Move cursor to "PID Play" and press **OK** key to enter service PID window.

Video PID: Press **◀▶** and **▲▼** keys to set video PID value and press **OK** key to confirm.

Audio PID: Set audio PID value. Please refer to above operation.

PCR PID: Set PCR PID value. Please refer to above operation.

Teletext PID: Set Teletext PID value. Please refer to above operation.

After setting, move cursor to "apply" and press **OK** key to play program according to the set PID values.



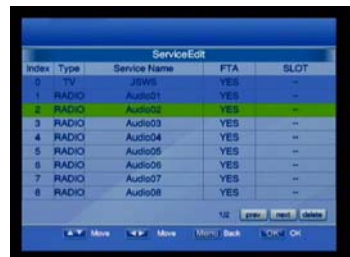
3.3.2 Service Editing

You can delete programs.

▲▼ keys: Select program

OK key: Set/cancel deletion

After setting, move cursor to "delete" and press **OK** key to confirm.



3.4 Decrypt

3.4.1 *CI Module

3.4.1.1 CI Information

You can view version and provider of CAM card and detailed CA card information.

▲▼ keys: Select item

OK key: Display information

MENU key: Back to previous menu

3.4.1.2 SLOT1/SLOT2 Setting

You can set one or more scrambled programs to be descrambled for output via SLOT1 or SLOT2.

▲▼ keys: Select program

OK key: Set/cancel descrambling

After setting, move cursor to "Apply" and press OK key to confirm.

Notes:

- *If one program has been set to be descrambled for output in current slot, its background will become blue.*
- *If one program's background is gray, it means this program has been set to be descrambled for output in another slot, and can not be re-set.*
- *The total number of programs that are set to be descrambled for output can not exceed the maximum supported by this decoder.*
- *The actual number of the descrambled programs needs support of CAM card.*
- *If no program is set to be descrambled for output, system will only descramble current program. If any program is set to be descrambled for output, other programs cannot be played.*

3.4.2 *CA Module

3.4.2.1 Smart Card

You can view smart card information, such as status, number, type, etc.

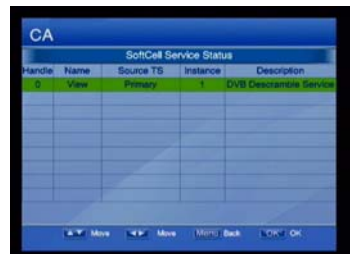
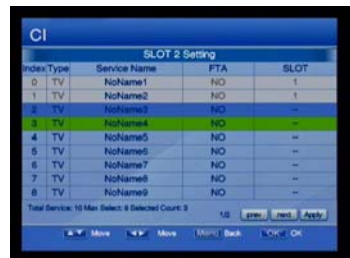
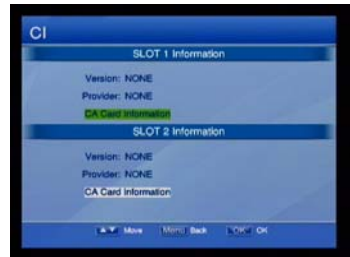
3.4.2.2 SoftCell Service

You can view softcell service status, such as handle, name, source TS, etc.

OK key: Display ECM status or EMM status.

❖ ECM Status

You can view ECM status, such as global service



status, service handle, etc.

❖ EMM Status

You can view EMM status, such as global status, service status, EMM source, etc.

3.4.3 BISS Setting

You can select BISS-1 or BISS-E descrambling if needed.

BISS Type: Press ◀▶ keys to select NONE, BISS-1 or BISS-E. If BISS descrambling is not needed, please select "NONE".

SW (0x): If "BISS Type" is set to "BISS-1" or "BISS-E", press ◀▶ and ▲▼ keys to set SW (0x) value (hexadecimal) and press OK key to confirm.

Injected ID (0x): If "BISS Type" is set to "BISS-E", press ◀▶ and ▲▼ keys to set injected ID (0x) value (hexadecimal) and press OK key to confirm.

After setting, move cursor to "apply" and press OK key to confirm.



3.5 *Output

3.5.1 *ASI Output

You can set ASI output source and ASI output format.

***ASI Out Select:** Press ◀▶ keys to select ASI IN, Tuner, CAM or OFF. If "ASI IN" is selected, ASI OUT port will output TS that is input from ASI IN port. If "Tuner" is selected, ASI OUT port will output TS that is input from LNB IN port. If "CAM" is selected, ASI OUT port will output TS that is input descrambled by CAM card. If "OFF" is selected, there will be no output from ASI OUT port.

Note: In order to avoid output abnormality, this setting should be consistent with the set input source. But "CAM" can be selected without such restriction.

ASI Out Format: Press ◀▶ keys to select 188 or 204. The default is "188".

After setting, move cursor to "apply" and press OK key to confirm.



3.5.2 *IP Output

3.5.2.1 General Setting

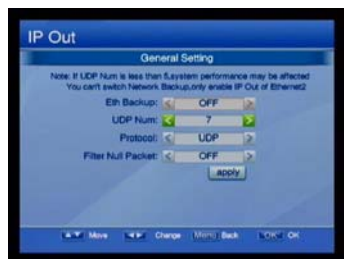
You can set general parameters of IP output.

***Eth Backup:** Press ◀▶ keys to select ON or OFF. The default is "OFF".

Note: This setting is only available when "IP Out Enable" of Ethernet2 is set to "ON".

UDP Num: Press ◀▶ keys to select UDP number (4 ~ 7). The default is "7".

Note: For MPTS output, the recommended UDP number is over 5, otherwise system



performance will be affected according to bit-rates.

Protocol: Press ◀▶ keys to select UDP or RTP. The default is "UDP".

Filter Null Packet: Press ◀▶ keys to select ON or OFF. The default is "OFF".

Note: If "ON" is selected, system will automatically filter null packet with PID value of "8191".

After setting, move cursor to "apply" and press **OK** key to confirm.

3.5.2.2 Ethernet1 Output

You can set IP output parameters of Ethernet1.

IP Out Enable: Press ◀▶ keys to select ON or OFF. The default is "OFF". If "ON" is selected, please continue following setting:

IP Out Type: Press ◀▶ keys to select MPTS or SPTS. The default is "MPTS".

Channel: If "IP Out Type" is set to "SPTS", press ◀▶ keys to select a channel.

Service: If "IP Out Type" is set to "SPTS", press ◀▶ keys to select a program.

Dst MAC: Display destination MAC address automatically, and can not be set.

Dst IP: Press ◀▶ and ▲▼ keys to set destination IP address and press **OK** key to confirm. The default is multicast address (e.g. 227.0.1.1).

Dst Port: Press ◀▶ and ▲▼ keys to set destination port and press **OK** key to confirm.

After setting, move cursor to "apply" and press **OK** key to confirm.



3.5.2.3 *Ethernet2 Output

If "Eth Backup" is set to "OFF", the programs output from Ethernet2 are the same as those from Ethernet1. But you can set destination IP and port. For detailed operations, please refer to **3.5.2.2 Ethernet1 Output**.

Note: If "Eth Backup" is set to "ON", this setting is not available, and Ethernet2 works as backup of Ethernet1 with all the parameters the same as those of Ethernet1. If Ethernet1 does not work, Ethernet2 will automatically substitute for Ethernet1 to work.



3.6 System

3.6.1 General Setting

You can set general parameters of system.

Language: Press ◀▶ keys to select a language for menu. The default is "English".

After setting, move cursor to "apply" and press **OK** key



to confirm.

3.6.2 Network Setting

You can set network parameters.

***Note:** If "Eth Backup" is set to "ON", network parameters of Ethernet2 are the same as those of Ethernet1, and can not be set.

***NIC Select:** Press ◀▶ keys to select Ethernet1 or Ethernet2.

MAC Address: Display MAC address automatically, and can not be set.

IP Address: Press ◀▶ and ▲▼ keys to set IP address and press OK key to confirm.

NetMask: Set mask. Please refer to above operation.

GateWay: Set gateway. Please refer to above operation.

After setting, move cursor to "apply" and press OK key to confirm.



The default network parameters of Ethernet1:

IP Address: 192.168.1.1

NetMask: 255.255.255.0

GateWay: 192.168.1.254

*The default network parameters of Ethernet2:

IP Address: 192.168.2.1

NetMask: 255.255.255.0

GateWay: 192.168.2.254



3.6.3 AV Setting

You can set AV parameters.

Resolution: Press ◀▶ keys to select a proper resolution (Auto, NTSC, PAL-BDGI, PAL-M, SECAM, 720P60, 720P59.94, 720P50, 1080I60, 1080I59.94 or 1080I50).

Note: HD resolution is only applicable to HD series decoders.

PCR Synchr: Press ◀▶ keys to select ON or OFF.

Aspect Ratio: Press ◀▶ keys to select a proper aspect ratio (Auto, 4:3 or 16:9).

AR Conversion: Press ◀▶ keys to select Letter Box or Pan Scan.

***Digital Audio:** Press ◀▶ keys to select Uncompress or Compressed. If "Compressed" is selected, AC3 will be output from AES OUT port.

Analog Mixer: Press ◀▶ keys to select Stereo, Left, Right or Mono.

Volume (0 ~ 31): Press ◀▶ keys to adjust volume.

After setting, move cursor to "apply" and press OK key to confirm.



3.6.4 VBI Setting

You can set VBI parameters.

VBI Select: Press ◀▶ keys to select TeleText, CloseCaption or OFF.

After setting, move cursor to “apply” and press **OK** key to confirm.

3.6.5 *Alarm Setting

You can set alarm parameters, so that system will response with related actions according to the set parameters when an abnormality occurs.

3.6.5.1 General Setting

Master Switch: Press ◀▶ keys to select OFF or ON. The default is “OFF”.

Auto Recover: Press ◀▶ keys to select OFF or ON. The default is “OFF”.

IP Address of Trap: The default is “192.168.1.2”.

Note: If there is an alarm, system will automatically send alarm information to the set IP address via SNMP Trap.

After setting, move cursor to “Apply” and press **OK** key to confirm.

3.6.5.2 Alarm Item

❖ Signal Abnormality

Item Select: Press ◀▶ keys to select Lock state, Strength or Quality.

Alarm Switch: Press ◀▶ keys to select OFF or ON. The default is “OFF”.

Alarm Level: Press ◀▶ keys to select an alarm level. The default is “Level-1”.

Critical Value: Press ◀▶ and ▲▼ keys to set critical value and press **OK** key to confirm.

Note: If “Item Select” is set to “Lock state”, This value denotes signal interruption duration (seconds). If set to “Strength”, it denotes range of signal strength change (dB). If set to “Quality”, it denotes range of signal quality change (dBm).

After setting, move cursor to “Apply” and press **OK** key to confirm.

❖ Stream Abnormality

Item Select: Press ◀▶ keys to select Sync Error or CC Error.

Alarm Switch: Press ◀▶ keys to select OFF or ON. The default is “OFF”.

Alarm Level: Press ◀▶ keys to select an alarm level.



The default is "Level-1".

Critical Value: Press ◀▶ and ▲▼ keys to set critical value and press **OK** key to confirm.

Note: *This value denotes number of alarm items occurred within 10 seconds.*

After setting, move cursor to "Apply" and press **OK** key to confirm.

❖ Decode Abnormity

Item Select: Press ◀▶ keys to select Vid Overflow, Vid Underflow, Vid Error, Aud Underflow or Aud Error.

Alarm Switch: Press ◀▶ keys to select OFF or ON. The default is "OFF".

Alarm Level: Press ◀▶ keys to select an alarm level. The default is "Level-1".

Critical Value: Press ◀▶ and ▲▼ keys to set critical value and press **OK** key to confirm.

Note: *This value denotes number of alarm items occurred within 10 seconds.*

After setting, move cursor to "Apply" and press **OK** key to confirm.



❖ Network Abnormity

***Item Select:** Press ◀▶ keys to select Eth1 Link State or Eth2 Link State.

Alarm Switch: Press ◀▶ keys to select OFF or ON. The default is "OFF".

Alarm Level: Press ◀▶ keys to select an alarm level. The default is "Level-1".

After setting, move cursor to "Apply" and press **OK** key to confirm.



3.6.5.3 Alarm Action

Alarm Level: Press ◀▶ keys to select an alarm level. The default is "Level-1".

***Buzzer Output:** Press ◀▶ keys to select OFF or ON. The default is "OFF".

Note: *During buzzer output, relay will also output voltage.*

Front Panel Display: Press ◀▶ keys to select OFF or ON. The default is "OFF".

***Video Color Bar:** Press ◀▶ keys to select OFF or ON. The default is "OFF".

***ASI Cutoff:** Press ◀▶ keys to select OFF or ON. The default is "OFF".

***MPEG-IP Cutoff:** Press ◀▶ keys to select OFF or ON. The default is "OFF".

After setting, move cursor to "Apply" and press **OK** key to confirm.



3.7 Preset

3.7.1 Restore

Warning: This function will restore system settings to factory default and erase all programs. Move cursor to "Restore" and press **OK** key, a message box pops up for confirmation. Select "Confirm" and press **OK** key to confirm or select "Cancel" and press **OK** key to cancel the operation.

3.7.2 Reboot

You can reboot system by this operation. Move cursor to "Reboot" and press **OK** key, a message box pops up for confirmation. Select "Confirm" and press **OK** key to confirm or select "Cancel" and press **OK** key to cancel the operation.

3.7.3 Configuration Save

You can save current configuration (e.g. LNB setting, AV setting, etc) by this operation. Move cursor to "Config Save" and press **OK** key, a message box pops up for confirmation. Select "Confirm" and press **OK** key to confirm or select "Cancel" and press **OK** key to cancel the operation.

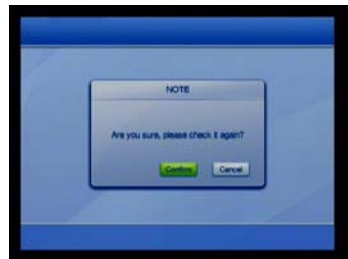
3.7.4 Configuration Load

You can load the last saved configuration by this operation. Move cursor to "Config Load" and press **OK** key, a message box pops up for confirmation. Select "Confirm" and press **OK** key to confirm or select "Cancel" and press **OK** key to cancel the operation.

3.8 Identity

You can view product information, hardware information and software information.

OK key: Display license information (Display all the functions supported by this decoder, such as MPEG4 decoding, MPEGoIP, etc)



4. *Scrambled Program

With CAM card and smart card, you can enjoy various scrambled programs authorized by program providers.

4.1 *Insert Card

❖ *Insert CAM Card

1. Insert the CAM card into the CI slot on the left side of front panel according to arrow direction.
2. Face the side with electronic chip upwards and insert the smart card into the CAM card horizontally according to arrow direction.

❖ *Insert Smart Card

Smart card slot is on the left side of front panel. Face the side with electronic chip downwards and insert the smart card into the smart card slot horizontally according to arrow direction.

4.2 Search Scrambled Program

You can modify frequency parameters according to actual tuner type and search programs manually. For more details, please refer to **3.2.3 Search**.

5. *ASI Cascade Setting

ASI cascade means serially connecting two or more decoders via ASI IN and ASI OUT ports, so as to realize multi-program descrambling in one TS.

Set cascade as follows:

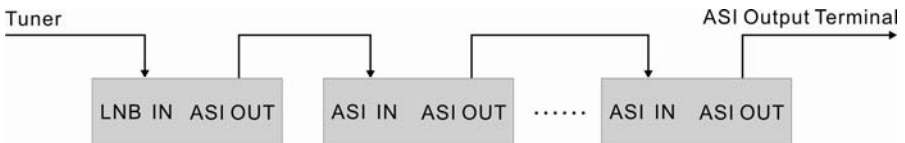
❖ Set Hardware Cascade

Connect ASI OUT port of a decoder to ASI IN port of another decoder with a BNC cable. Repeat this step to set more cascades.

❖ Set Software Cascade

If you want to set TS descrambled by decoder 1 and output from its ASI OUT port as an input stream of ASI IN port of decoder 2, please set "ASI Out Select" to "CAM" in "Main Menu → Output → ASI Output" window of decoder 1, and set "Input Select" to "ASI" in "Main Menu → Input → Input Source" window of decoder 2.

❖ Cascade Diagram



6. Web Server Description

6.1 Introduction

With the embedded Web Server in decoder, user can realize remote monitoring and function setting for professional receiver decoder.

User can access decoder from PC through network via a browser, and submit data through the interactive page to monitor the decoder. One PC can control more than one decoder simultaneously. This function greatly improves operability of decoder, and facilitates management.

Notes:

- **Connect decoder to Ethernet with RJ45 data line.**
- **Before operation, please set IP address of decoder (e.g. `http://192.168.1.1`) in "Main Menu → System → Network Setting" window according to network environment. The IP address of decoder and the computer should be set in the same network segment or IP sub-net.**
- **Recommended browser version is "IE6.0" or above, and screen resolution of computer "1024 x 768".**

6.2 Web Page Description

Open the browser, and input the set IP address to enter web page.

Note: The default IP address of Ethernet1 is "http://192.168.1.1", and *Ethernet2 "http://192.168.2.1".

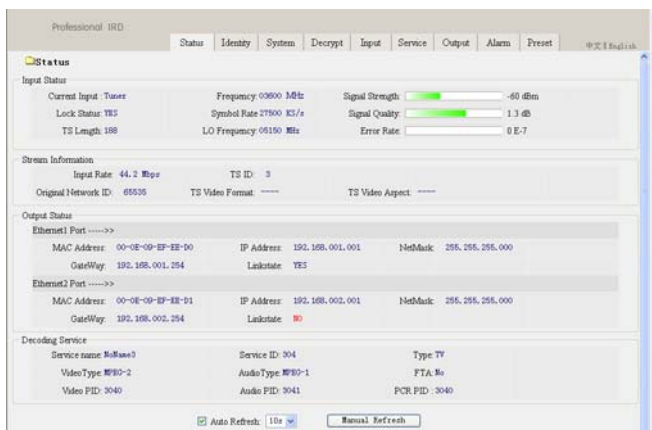
The page consists of function navigation area, information area and page title area.

Function navigation area provides quick navigation for Status, Identity, System, Decrypt, Input, Service, Output, Alarm and Preset.

Information area provides viewing or setting of actual features.

Page title area displays product description, etc.

Note: Web page may vary with different models, tuner types and operation systems.



6.2.1 Status

Status page displays input status, stream information, output status and decoding service. You can refresh status manually, or set automatic refreshing.

Input status includes current input source, lock status, etc.

Stream information includes input rate, TS ID, original network ID, etc.

Output status displays status of two Ethernet ports, such as MAC address, IP address, link state, etc.

Decoding service includes service name, service ID, service type, etc.

Professional IRD

Status Identity System Decrypt Input Service Output Alarm Preset

Status

Input Status

Current Input: Tuner	Frequency: 69600 MHz	Signal Strength: -60 dBm
Lock Status: YES	Symbol Rate: 27500 Ks/s	Signal Quality: 1.3 dB
TS Length: 198	LO Frequency: 66150 MHz	Error Rate: 0 E-7

Stream Information

Input Rate: 44.2 Mbits	TS ID: 3
Original Network ID: 65535	TS Video Format: ----
	TS Video Aspect: ----

Output Status

Ethernet1 Port ---->

MAC Address: 00-0E-09-EP-EP-D0	IP Address: 192.168.001.001	NetMask: 255.255.255.000
Gateway: 192.168.001.254	Linkstate: YES	

Ethernet2 Port ---->

MAC Address: 00-0E-09-EP-EP-D1	IP Address: 192.168.002.001	NetMask: 255.255.255.000
Gateway: 192.168.002.254	Linkstate: NO	

Decoding Service

Service name: Rollback3	Service ID: 304	Type: TV
Video Type: MPEG-2	Audio Type: MPEG-1	FTA: No
Video PID: 3040	Audio PID: 3041	PCR PID: 3040

☒ Auto Refresh: 10s

6.2.2 Identity

Identity page displays version information and license information.

Version information includes product information and software/hardware information, such as product name, logic version, etc.

License Information includes decoding configuration, input/output configuration, etc.

Professional IRD

Status Identity System Decrypt Input Service Output Alarm Preset

Identity

Version Information

Product Information ---->

Manufacturer: OUGIP	Product Name: P5000-14	Tuner Type: DVB-S(SHARP T306)	Series Number: ----
---------------------	------------------------	-------------------------------	---------------------

Software/Hardware Information ---->

HW Version: 100	Booter Version: 106	Booter Build Date: Apr 28 2010 - 09:43:43
Logic Version: 104	App Version: 121	App Build Date: May 9 2011 - 10:01:57

License Information

Decode Configure ---->

MPEG2 Decode SD	MPEG4-AVC/AM264 Decode SD	AC3/AAC Decode Support	AVS Decode Unsupport
-----------------	---------------------------	------------------------	----------------------

Input/Output Configure ---->

ASI Input Support	Eth Backlog Support	IP Out Channel 6	IP Input Unsupport
-------------------	---------------------	------------------	--------------------

Decrypt Configure ---->

CA Type: ----	CI Decrypt Num: 6
---------------	-------------------

Advanced Configure ---->

Alarm Support

6.2.3 System

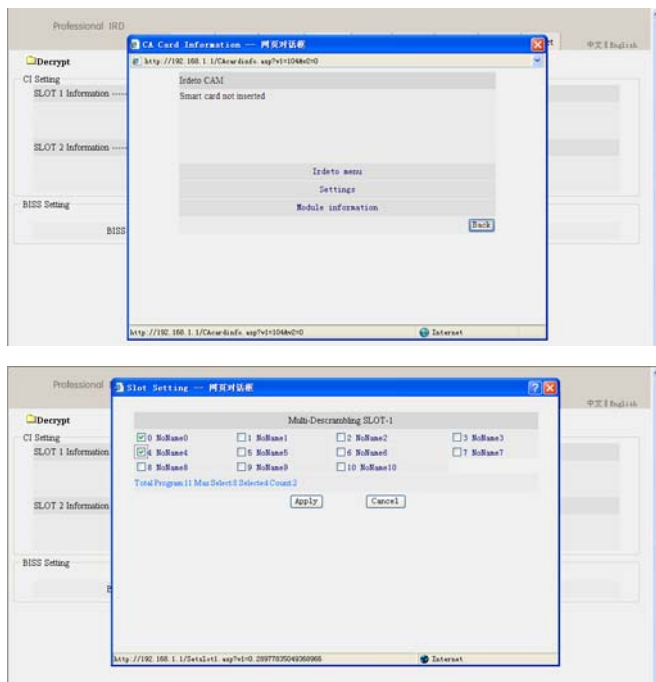
System page includes language setting and Ethernet parameter setting.

6.2.4 Decrypt

*Decrypt page includes CI setting (or CA status) and BISS setting.

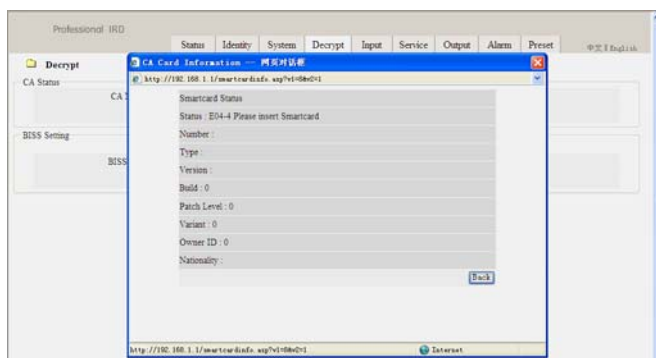
❖ *CI Setting

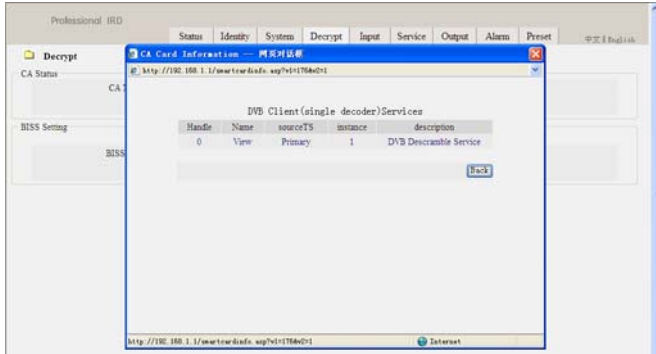
CI setting provides CA card information viewing and multi-descrambling setting.



❖ *CA Status

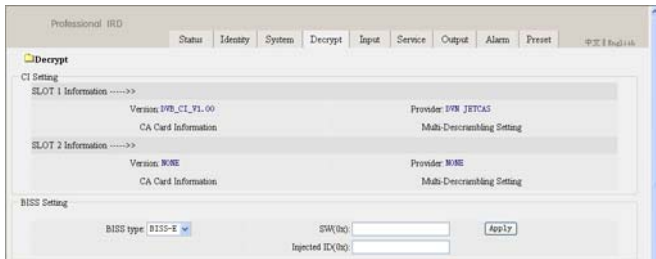
CA Status provides smart card status and softcell service status viewing.





❖ BISS Setting

BISS setting supports BISS-1 and BISS-E descrambling.



6.2.5 *Input

Input page displays input status. You can set input parameters.

Input status includes current input source, lock status, input rate, etc.

*You can set input source (ASI or Tuner). If "Tuner" is selected, please continue RF input setting.



6.2.6 Service

Service page displays information of all the searched programs. You can select programs to play or set PID values directly to play program. If needed, you can set AV parameters and VBI parameters.

Professional IRD

Status Identity System Decrypt Input Service Output Alarm Preset

Service

Service Information

Index	Type	Service Name	Service ID	Post_PID	PCR_PID	Video_PID	Tdt_PID	Audio_PID	FTA	Stt
0	TV	W9	2	8003	1030	1030	0	10311	Yes	0
1	TV	Bloomberg	2	8002	1030	1030	0	10211	Yes	0
2	TV	Barris Today	6	8006	1000	1000	0	10011	Yes	0
3	TV	Russia TV1	7	8007	8100	1070	0	10711	Yes	0

PID

Video PID: 0254 Audio PID: 0257 PCR PID: 0258 Tdtd PID: 0259 Apply

Video

Aspect Ratio: Auto Resolution: PAL-1080i AR Conversion: Letter Box Apply

Audio

Volume: 15 Analog Mixer: Stereo Digital Audio: Uncompress Apply

PCR

PCR Synchronization: ON Apply

VBI Select: OFF Apply

6.2.7 *Output

Output page includes ASI output setting and IP output setting of two Ethernet ports, supporting MPTS and SPTS.

Note: IP output of Ethernet2 needs license support.

Professional IRD

Status Identity System Decrypt Input Service Output Alarm Preset

Output

Output Setting

ASI Output ----->

ASI Out Select: CAM ASI Out Format: 188 Apply

IP Output ----->

Ethernet 1 Enable: ON IP Out Type: SPTS Udp Num: 7 Filter Null Packet: OFF

Ethernet 2 Enable: OFF Eth Backup: OFF Protocol: UDP

SPTS Setting

Channel	Service	Ethernet 1		Ethernet 2	
		Dest IP	Dest Port	Dest IP	Dest Mac
0	Bloomberg	227.0.0.0.1.001	12090	00-00-00-00-00-00	227.0.0.0.0.1.001
1	Bloomberg	227.0.0.0.0.1.001	12091	00-00-00-00-00-00	227.0.0.0.0.0.1.001
2	Bloomberg	227.0.0.0.0.1.001	12092	00-00-00-00-00-00	227.0.0.0.0.0.0.1.001
3	Bloomberg	227.0.0.0.0.1.001	12093	00-00-00-00-00-00	227.0.0.0.0.0.0.0.1.001
4	Bloomberg	227.0.0.0.0.1.001	12094	00-00-00-00-00-00	227.0.0.0.0.0.0.0.0.1.001
5	Bloomberg	227.0.0.0.0.1.001	12095	00-00-00-00-00-00	227.0.0.0.0.0.0.0.0.0.1.001
6	Bloomberg	227.0.0.0.0.1.001	12096	00-00-00-00-00-00	227.0.0.0.0.0.0.0.0.0.0.1.001
7	Bloomberg	227.0.0.0.0.1.001	12097	00-00-00-00-00-00	227.0.0.0.0.0.0.0.0.0.0.0.1.001

Apply Cancel

Professional IRD

Status Identity System Decrypt Input Service Output Alarm Preset

Output

Output Setting

ASI Output ----->

ASI Out Select: CAM ASI Out Format: 188 Apply

IP Output ----->

Ethernet 1 Enable: ON IP Out Type: MPTS Udp Num: 7 Filter Null Packet: OFF

Ethernet 2 Enable: OFF Eth Backup: OFF Protocol: UDP

MPTS Setting

Ethernet 1		Ethernet 2	
Dest IP address	Dest IP Port	Dest IP address	Dest IP Port
227.0.0.0.0.1.001	12090	227.0.0.0.0.1.001	12090

Apply Cancel

6.2.8 *Alarm

Alarm page includes general setting, alarm item setting and alarm action setting.

Professional IRD

Status Identity System Decrypt Input Service Output Alarm Preset

Alarm

General Setting

Master Switch: OFF Auto Recover: OFF IP Address of Traps: 192.168.001.002 Apply Alarm Recover

Alarm Item

Alarm Item	Critical Value	Alarm Switch	Alarm Level	Alarm Item	Critical Value	Alarm Switch	Alarm Level	
Stream abnormality	Sync Error	00020	OFF	Level-1	Network abnormality	Eth1 Link State	----	
	CC Error	00020	OFF	Level-1		Eth2 Link State	----	Level-1
Decode abnormality	Vid Overflow	00020	OFF	Level-1	Signal abnormality	Lock state	00005	
	Vid Underflow	00020	OFF	Level-1		Strength	00010	Level-1
	Vid Error	00020	OFF	Level-1		Quality	00015	Level-1
	Asid Underflow	00020	OFF	Level-1				
	Asid Error	00020	OFF	Level-1				

Apply

Alarm Action

Alarm Level	ASI Cutoff	MPEG2/IP Cutoff	video Color Bar	Buzzer Output	Preset Panel display
Level-1	OFF	OFF	OFF	OFF	OFF
Level-2	OFF	OFF	OFF	OFF	OFF
Level-3	OFF	OFF	OFF	OFF	OFF

Apply

6.2.9 Preset

On Preset page, you can restore default, reboot system, save current configuration, load the last saved configuration and update software.

Professional IRD

Status Identity System Decrypt Input Service Output Alarm Preset

Preset

Restore&Reboot

Restore Reboot

Configuration Save&Load

Please Save the configuration when you modify the parameter or update the software:

Save

You can restore the configuration by loading the configuration file:

Path: Browse... upload

Software Update

File: Browse... force update

update

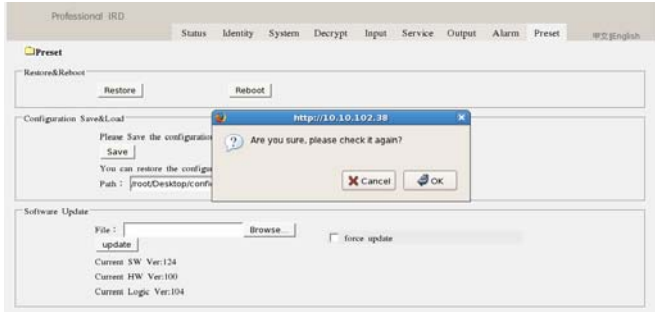
Current SW Ver:124

Current HW Ver:100

Current Logic Ver:104

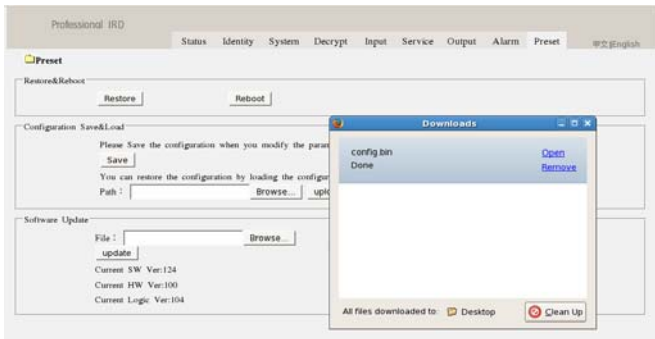
❖ Restore & Reboot

Click "Restore" or "Reboot" button, a message box pops up for confirmation. Click "OK" button to confirm or click "Cancel" button to cancel the operation.

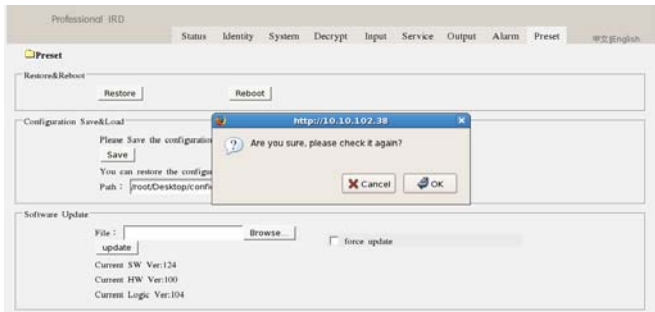


❖ Configuration Save & Load

Configuration Save: Click “Save” button, a message box pops up for confirmation. Click “Save” button and select a folder to save current configuration (e.g. RF setting, AV setting, etc).



Configuration Load: Click “Browse” button and select a configuration file, then click “upload” button, a message box pops up for confirmation. Click “OK” button to confirm or click “Cancel” button to cancel the operation.



❖ Software Update

Click “Browse” button and select an update file, then click “update” button, a message box pops up for confirmation. Click “OK” button to confirm or click “Cancel” button to cancel the operation.

Notes:

- **Force update is supported. If “force update” is not selected, the version of the selected update software should be higher than the version of current software.**
- **The hardware version of the selected update software should be the same as the version of current hardware.**



7. Specification


DVB-S	
Input Frequency	950 ~ 2150MHz
Symbol Rate	2.0 ~ 45MS/s
Input Impedance	75Ω
LNB Power	13V/18V, I _{max} =400mA (LNB automatic short circuit protection)
Control Switch	0/22k switch (support Universal LNB)
Standard	EN300 421
DVB-S2 (optional)	
Input Frequency	950 ~ 2150MHz
Symbol Rate	2.0 ~ 45MS/s (QPSK), 5.0 ~ 37MS/s (8PSK)
Modulation Mode	QPSK, 8PSK
Standard	EN302 307
DVB-C (optional)	
Input Frequency	47 ~ 862MHz
Symbol Rate	2.0 ~ 7.0MS/s
QAM Demodulation	16/32/64/128/256
Standard	EN300 429
DVB-T (optional)	
Input Frequency	174 ~ 862MHz
Bandwidth	6M, 7M, 8M
FEC	1/2, 2/3, 3/4, 5/6, 7/8, Automatic
Demodulation	QPSK, 16QAM, 64QAM
Standard	EN300 744
Video Decoding	
Standard	SD series: MPEG-2 MP@ML, MPEG-4 ASP, MPEG-4 AVC/H.264, MP@L3, MP@L4 HD series: MPEG-2 MP@ML, MPEG-2 MP@HL, MPEG-4 ASP, MPEG-4 AVC/H.264, MP/HP@L3, MP@L4.0, HP@L4.1
Audio Decoding	
Standard	MPEG-1 Layer I & II, MPEG-2, AC3

Micro-Processor & Memory	
Working Frequency	450MHz
Flash	8MB
DDR SDRAM	2 × 128MB
Front Panel	
Display	4-segment LED displays channel number and status 10-level LED displays signal strength
Key	6 keys (Up, Down, Left, Right, MENU, OK)
*CA Interface	Smart card slot × 1
*CI Interface	CI slot × 2
*Conditional Access Support	Irdeto, NDS VideoGuard, Viaccess, Nagravision, Canal+, MediaGuard, Cryptowork
Rear Panel	
LNB IN/ RF IN/ANT IN	DVB-S/S2: F type female × 1 DVB-C: F type female × 1 DVB-T: IEC type female × 1
LOOP THROUGH	DVB-S/S2: F type female × 1 DVB-C/DVB-T: IEC type male × 1
RCA Output	RCA × 3 (Audio-Left × 1, Audio-Right × 1, OSD monitor video × 1)
Y/C Output	S-Video × 1
*ASI Interface	BNC port × 4 (ASI IN × 1, ASI OUT × 2, ASI IN LOOPOUT × 1)
*AES OUT	BNC port × 1
*ALARM OUT	BNC port × 1
*Main Video Output	BNC port × 2 (video without OSD)
*HDMI Output	HDMI port × 1
RS232 Interface	DB-9 female × 1
*Ethernet Interface	RJ45 × 2
*Analog XLR Audio Output	XLR port × 2
Power Supply	
Input Voltage	100V-240V~ 50/60Hz
Power Consumption	35W max.


Physical	
Size	435mm (L) × 257mm (W) × 44mm (H)
Chassis	1RU (19")
Weight	4kg
Operation Temperature	0℃ ~ +40℃
Storage Temperature	-40℃ ~ +60℃
Storage Humidity	≤93%

8. Trouble Shooting


DISPLAY on front panel is off

-  1. Power cord is disconnected. Make sure power cord is plugged into a proper power socket.
2. The receiver is turned off. Turn it on.


No signal

-  1. Satellite dish doesn't point at the satellite. Adjust dish and check signal level.
2. LNB frequency parameters are set wrongly. Set correct frequency parameters.
3. No power supply to LNB. Set "LNB Power" to "13V (vert)" or "18V (horiz)" in "Main Menu → Input → LNB Setting" window.
4. Signal cable is disconnected. Connect signal cable correctly.
5. There is no signal from front-end. Try again when signal is available.


No sound

-  1. Audio cable is disconnected or incorrectly connected. Connect audio cable correctly.
2. Volume is set to minimum. Increase volume to a proper level.
3. Audio parameter is set wrongly. Set a proper audio parameter.


No picture

-  1. Video cable is disconnected or incorrectly connected. Connect video cable correctly.
2. The receiver is in radio mode. Switch it to TV mode if you need.


Video and audio mismatch, or absonant sound

-  Audio parameter is set wrongly. Select a proper audio parameter.


***Teletext information is not available**

-  1. Video is not output from main video output port. Connect video cable to main video output port.
2. "VBI Select" is set to "OFF" or "CloseCaption". Set "VBI Select" to "Teletext" in "Main Menu → System → VBI Setting" window.


Poor quality picture

-  1. Weak signal. Connect signal cable securely.
2. Video is not output from main video output port. Connect video cable to main video output port.


***No video output from cascaded decoder**

-  "Input Select" is not set to "ASI". Set "Input Select" to "ASI" in "Main Menu → Input → Input Source" window.


Cannot play program


-  *1. Smart card or CAM card is inserted incorrectly. Insert smart card and CAM card correctly.
2. TS is changed. Restore default and search program again.

***MPEGoIP data is not available**


-  1. "IP Out Enable" is set to "OFF". Set "IP Out Enable" to "ON" in "Main Menu → Output → IP Output → Ethernet1/2 Output" window.

2. Destination IP and port are set wrong. Set correct destination IP and port.

 **Abnormality occurs during operation, such as only menu background displayed on screen, and keys invalid.**

 Keep pressing **MENU** key for 2 to 3 seconds until system resumes to full screen display mode.

 **Decoder does not work**

 Decoder is installed in a place with heat source and bad ventilation. Move it to a well ventilated place.

Note: If you cannot solve the problems after referring to this trouble shooting, please contact your local dealer.

9. Acronym

ASI	Asynchronous Serial Interface
CA	Conditional Access
CC	Closed Caption
CI	Common Interface
CVBS	Composite Video Broadcast Signal
DiSEqC	Digital Satellite Equipment Control
DVB	Digital Video Broadcasting
FTA	Free to Air
HDMI	High Definition Multimedia Interface
HDTV	High Definition Television
LCN	Logical Channel Number
LED	Lighting Emitting Diode
LNB	Low Noise Block
MUX	Multiplexer
NIT	Network Information Table
OSD	On Screen Display
OTA	Over the Air
PCR	Program Clock Reference
PID	Packet Identifier
QAM	Quadrature Amplitude Modulation
RCA	Radio Corporation of America
RF	Radio Frequency
SDTV	Standard Definition Television
SNMP	Simple Network Management Protocol
S/P DIF	Sony/Philips Digital Interface Format
S-VIDEO	Separate Video
TS	Transport Stream
UHF	Ultra-High Frequency
URL	Uniform Resource Locator
VBI	Vertical Blanking Interval